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Can an effective approach to art education be developed that will not only reach a majority of our students, but will also be practical in terms of existing human and material resources? A study was undertaken to develop and evaluate a series of self-instructional, programed art sequences for the upper elementary through high school levels. Six sequences averaging 30 minutes in length and covering topics on art history, artistic techniques, and picture subject matter were developed. The materials for each sequence included a programed booklet with branching format and from 15 to 30 full-sized reproductions. Two of the sequences were subjected to a series of evaluations in several schools. Students were divided into experimental groups and control groups that were uninstructed. All groups received a pre- and posttest designed to measure improvement. An attitude questionnaire was administered to students and teachers. Both programed sequences showed significant improvement at the .01 level for all experimental groups, with two showing improvement at the .001 level. Material was most effective when used at the instructional level for which it was designed. This method is successful, makes efficient use of resources, is approved by teachers and students, and can achieve objectives with large groups, whether or not the teacher has art teaching experience. This project was done under a Titles I and III/ESEA grant. (MT)

# research report

## NUMBER 2

## PROGRAMED ART IN THE ELEMENTARY AND SECONDARY SCHOOLS

INSTRUCTIONAL RESOURCES CENTER

STATE UNIVERSITY COLLEGE
FREDONIA, NEW YORK

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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# NUMBER 2

# PROGRAMED ART IN THE ELEMENTARY AND SECONDARY SCHOOLS

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Programs used in this project were developed with the support of the Board of Cooperative Educational Services, Chautauqua County, under a grant from the United States Office of Education, ESEA Titles I and III.

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## BACKGROUND

In the spring of 1966 a highly successful experiment was conducted at the University of Miami.[1] In this project an art sequence was designed for college freshman using a programed booklet in conjunction with paintings displayed in an Art Gallery.

The success of this project in meeting its instructional objectives, in its efficiency of operation, and in the positive effect it had on student attitudes raised the question as to whether this general approach could be used successfully on the elementary and secondary level. This report describes a follow-up experiment testing the hypothesis that programed art sequences would be instructionally effective in grades four through twelve. Funds for the development of the programs and the purchase of art prints were provided by the Board of Cooperative Educational Services, Chautauqua County, under a grant from the Office of Education, ESEA Title I and III.

## PROBLEM

An art program must develop not only creators of art, but, in all students, an appreciation and an awareness of the role

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[1]Diamond, Robert M., Programed Instruction in an Art Gallery, Report Number 27, Office for the Study of Instruction, University of Miami, Coral Gables, Florida, April 1966.

of art in their heritage and their environment. These are the demands being placed upon art education in a period when the schools are struggling to meet a variety of needs peculiar to this time in history.

Traditionally it has been the creative individual who has received the attention of most art programs with the vast majority of students having little or no contact with formal instruction in this area. Attempts to reach the total school population with an effective art program have been defeated by a basic problem of logistics, too many students, too few teachers and limited budgets. In some school districts the ratio of art teachers to students is so great as to negate completely any efforts in program development. One art teacher to one thousand students is not unheard of on the high school level and in the elementary grades the problem is further compounded by the need for the teacher to travel between schools.

Today with a growing emphasis on a cultural-context approach to teaching, there is a growing need for more effective ways of meeting this problem. Art for the first time is becoming a recognized part of history, language arts and science instruction. Compounding the problem even further is the tendency for the better art programs to be located in the financially stronger school districts. Thus the child from the

disadvantaged home, who most needs the school for the aesthetic portion of his life, often finds himself in the school with the poorest art program. In most schools the gap for art education is being filled, as much as possible, by the regular classroom teacher as one more area of responsibility.

The possibility of a major influx of new art teachers is remote, a comprehensive training program in art for the general classroom teacher is impractical, and the expectations of major imputs of new funds into art education dim. The basic question is therefore, can an effective approach to art education be developed that will not only reach a large majority of our students but also be practical in the use of existing human and material resources?

This project is a prototype of such an approach and was designed to answer the following specific questions:

1. Are programed art sequences effective in the elementary and secondary school classroom?
2. Can independent learning sequences affect attitudes and value judgements?
3. Can this approach be effective in schools without formal art programs?
4. Is this approach economically and administratively feasible?

5. Is this approach effective at all levels of instruction?

PROCEDURE

A decision was made to select a variety of subjects on different grade levels and for each develop and field test a programed instructional sequence. Each sequence would consist of a programed booklet and a series of mounted prints. The booklets, written in a branching (multiple choice) format, were designed whenever possible, to force students into making comparisons between paintings. The prints were located around a room and labeled (for reference purposes) by letter without title, date or artist.

To test this approach, a broad spectrum of topics was chosen in cooperation with a group of area art teachers. Six specific topics were selected for experimentation. The specific sequences were as follows:

1. Subject Matter in Art (Grades 4-6) An overview of the typical subject areas utilized by artists; landscapes, still life, portraiture, and genre.
2. Development of Renaissance Art (High School) A comparison of early and late Renaissance painting.
3. Materials of the Painter (Grades 4-6) A comparison of commonly used media and the effect on the appear-

ance of a work of art: oil, fresco, watercolor, and pastels.

4. Abstraction and Representation (Grades 6-9) The various approaches of artists from exact representation to complete abstraction or non-objective art.

5. Space in Painting (Grades 6-9) The use of the two dimensional nature of the painting surface and its potential for the illusionary suggestion of three dimensional.

6. Printmaking (Grades 7-12) The multiple image processes: relief, intaglio, and planographic.

This study, while referring to all the sequences, reports in depth the first two of these units, Subject Matter in Art and Development of Renaissance Art.

Each unit was developed in the following sequence:

1. Statement of Terminal Behaviors

   To permit evaluation a list of terminal objectives (behaviors) was prepared for each sequence. These objectives then formed the basis for the pre and post tests that were administered. The Criteria Tests for the two series will be found in Appendix A.

2. Content Outline

   An outline of the sequence to be followed and the type

of paintings that would be utilized.

3. Print Selection

Based on the specific needs of the individual sequence, paintings (reproductions) were selected for purchase. Availability of reproductions often determined the particular painting that was to be used. The total number of reproductions used in a single sequence ranged from fifteen to thirty and in most cases, full size reproductions were ordered. (It should be noted that original prints were used in the Printmaking sequence.) Cost of the reproductions ranged from $3.00 to $20.00. The specific paintings used for these sequences will be found in Tables I and II.

4. Program Writing

As noted earlier, programswere written in the branching format. This approach was selected for several reasons. First, it was ideally suited for forcing students to make comparisons. Second, it is more flexible than the linear techniques permitting greater variety in sequences and in individual completion time. Third, in previous experiments, students have tended to prefer the branching format over the linear. The programed booklets, written by an experienced art teacher, contained approximately

TABLE I

REPRODUCTIONS USED

Subject Matter in Art

THE MILL *(Rembrandt)*
THE TULIP FIELD *(Monet)*
MILL AT ST. NICOLAS-LES-ARRAS *(Corot)*
LA MONTAGNE STE-VICTOIRE *(Cezanne)*
MANCHESTER VALLEY *Pickett)*
STILL LIFE *(Braque)*
STILL LIFE WITH MUSICAL INSTRUMENTS *(Claesz)*
FISH, HOUSE, NEW ENGLAND *(Hartley)*
STILL LIFE WITH CHICKENS *(Roman Period)*
TWO FISH *(Clave)*
DON MANUEL OSORIA DE ZUNIGA *(Goya)*
THE MAIDS OF HONOR *(Velasques)*
PORTRAIT OF A LADY *(Van der Weyden)*
SELF PORTRAIT *(Van Gogh)*
EMPRESS THEODORA *(Early Christian)*
PORTRAIT OF MM. CHARLES GOUND *(Ingres)*
GEORGE WASHINGTON *(Stuart)*
PORTRAIT OF THE ARTIST *(Dürer)*
WOMAN WITH FLOWERED HAT *(Picasso)*
MILKMAID *(Vermeer)*
WEDDING DANCE *(Brueghel)*
KITCHEN MAID *(Chardin)*
IN THE NURSERY *(Renoir)*
RAFTSMEN *(Bingham)*
DER HASE *(Durer)*

TABLE II

REPRODUCTIONS USED

Development of Renaissance Art

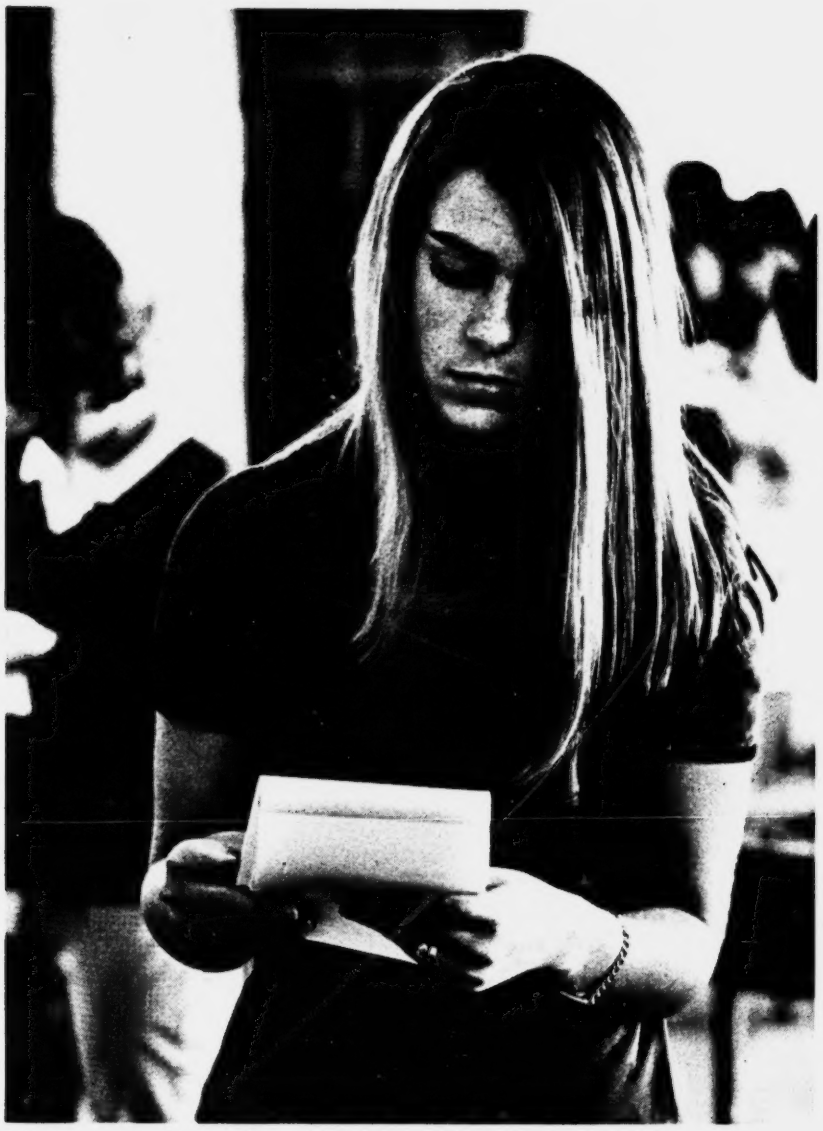
ST. MARTIN *(12th c. Catalan)*
ST. FRANCIS AND THE BIRDS *(Giotto)*
MADONNA AND CHILD IN A LANDSCAPE
*(Giovanni Bellini)*
MADONNA AND CHILD WITH ANGELS *(Hans Memling)*
VIRGIN OF THE ROCKS *(Leonardo da Vinci)*
ROUT OF SAN ROMANO *(Paola Uccello)*
SMALL COWPER MADONNA *(Raphael)*
A GENTLEMAN IN ADORATION BEFORE THE MADONNA
*(Giovanni Battista Moroni)*
PORTRAIT OF THE DOGE, LEONARDO LOREDANO
*(Giovanni Bellini)*
ST. ANTHONY LEAVING HIS MONASTERY *(Sassetta)*
MONA LISA *(Leonardo da Vinci)*
MARGARETHA BOGHT *(Joos van Cleve)*
THE GARDEN OF DELIGHTS *(Hieronymus Bosch)*
THE TRIBUTE MONEY *(Masaccio)*
SISTINE MADONNA *(Raphael)*
THE REST ON THE FLIGHT INTO EGYPT *(Gerald David)*

70 pages. Selected pages from the Subject Matter in Art booklet will be found in Appendix B.

5. Testing Procedure and Evaluation

With the support of the Chautauqua County Board of Cooperative Educational Services, the individual reproductions were mounted for field use. Scheduling was also coordinated by the Board. The reproductions were displayed in a room set aside for the purpose, usually, standard classrooms, multi-purpose rooms, or libraries. Titles, dates, and artists were covered to prevent the use of this information in answering the questions.

Students in groups of ten to twelve would then begin the sequence in fifteen minute intervals. The branching design of the materials soon scattered each group of students and permitted another group to begin. Approximately 45 students could participate in the project at any one time. The reproductions were usually hung but when wall space was not available, chairs and tables were used as easels. Control and experimental groups were used for the Renaissance sequence and a test, based on the terminal behaviors, administered prior to and at the completion of the experiment.



A programed booklet referred students to specific prints located around the room. The branching format was used to highlight comparisons between paintings, to correct any confusion that may have existed and to permit students to advance at their own rate of speed.

Photos by Therold S. Lindquist.

The pre and post tests contained the same questions with the slides used for comparisons being changed. Improvement was measured by use of the two tests. Copies of the criteria tests for both sequences will be found in Appendix A. (Control groups received no formal instruction on the area being covered.) The Renaissance program was evaluated in two High Schools and in one Junior High School. The Subject Matter program was tested in fifth and sixth grades in a third school district.

At the completion of the sequence an attitude questionnaire was administered to students and teachers. Population for the student questionnaire includes additional individuals from other schools where the pre and post tests were not utilized. For greater scope the teacher questionnaire was administered to teachers using any of the experimental sequences.

## RESULTS

The results on the pre and post tests for the Subject Matter in Art sequence will be found in Table III.

A frequency distribution for the Subject Matter in Art sequence will be found in Table IV.

TABLE III

SUBJECT MATTER IN ART
Test Results
(20 items)

Silver Creek School District - Grades Five and Six

| TEST | MEAN |
|---|---|
| Pre- (n-110) | 11.7 |
| Post-(n-117) | 14.4* |

* A correlated "t" was performed with a resulting "t" of 6.23, significant as the .005 level of confidence.

TABLE IV

SUBJECT MATTER IN ART
Test Results
Frequency Distribution

| NUMBER CORRECT | PRE-TEST | POST-TEST |
|---|---|---|
| 20 | 0 | 6 |
| 19 | 1 | 11 |
| 18 | 1 | 16 |
| 17 | 3 | 10 |
| 16 | 3 | 9 |
| 15 | 8 | 10 |
| 14 | 6 | 5 |
| 13 | 18 | 10 |
| 12 | 19 | 12 |
| 11 | 21 | 6 |
| 10 | 12 | 9 |
| 9 | 5 | 7 |
| 8 | 6 | 2 |
| 7 | 2 | 1 |
| 6 | 4 | 3 |
| 5 | 1 | 0 |
| 4 | 0 | 0 |
| 3 | 0 | 0 |
| 2 | 0 | 0 |
| 1 | 0 | 0 |

The results for the pre and post test for the Development Renaissance Art sequence will be found in Table V, VI, and VII.

TABLE V

DEVELOPMENT OF RENAISSANCE ART
Test Results
(20 items)

Dunkirk High School

| TEST | MEAN |
|---|---|
| Pre- (n-95) | 11.7 |
| Post-(n-95) | 15.1* |

* A correlated "t" was performed with a resulting "t" of 3.062, significant at the .005 level of confidence.

TABLE VI

DEVELOPMENT OF RENAISSANCE ART
Test Results
(20 items)

Clymer Public Schools
(Grade 8)

| EXPERIMENTAL | | CONTROL | |
|---|---|---|---|
| TEST | MEAN | TEST | MEAN |
| Pre- (n-37) | 10.6 | Pre- (n-18) | 10.5 |
| Post-(n-37) | 13.4* | Post-(n-18) | 11.2** |

* A correlated "t" was performed with a resulting "t" of 3.817, significant at the .01 level of confidence.

** A correlated "t' was perfomed with a resulting "t" of 1.141, not significant.

Pre-test results comparing control and experimental groups resulted in a "t" of .211 which was not significant. Post test comparisons, control and experimental, groups resulted in a "t" of 2.553, significant at the .02 level of confidence.

TABLE VII

DEVELOPMENT OF RENAISSANCE ART
Test Results
(20 items)

Clymer Public Schools
(Grades 9-12)

| EXPERIMENTAL | | CONTROL | |
|---|---|---|---|
| TEST | MEAN | TEST | MEAN |
| Pre- (n-17) | 10.9 | Pre- (n-20 | 12.0 |
| Post-(n-16) | 15.0* | Post-(n-20) | 11.9** |

* A correlated "t" was performed with a resulting "t" of 7.26, significant at the .01 level of confidence.
** A correlated "t" was performed with a resulting "t" of 1.372, not significant.

Pre-test results comparing control and experimental groups resulted in a "t" of 1.06 which was not significant. Post-test results comparing the control and experimental groups resulted in a "t" of 3.518 significant at the .02 level of confidence.

A frequency distribution for the Development of Renaissance Art sequence in Clymer Public Schools will be found in Table VIII.

TABLE VIII

DEVELOPMENT OF RENAISSANCE ART
Frequency Distribution

Clymer Public Schools

| GRADE 8 | | | | | GRADES 9-12 | | | |
|---|---|---|---|---|---|---|---|---|
| EXPERIMENTAL | | CONTROL | | ITEMS | EXPERIMENTAL | | CONTROL | |
| Pre-Test | Post-Test | Pre-Test | Post-Test | CORRECT | Pre-Test | Post-Test | Pre-Test | Post-Test |
| 0 | 0 | 0 | 0 | 20 | 0 | 0 | 0 | 0 |
| 0 | 2 | 0 | 0 | 19 | 0 | 2 | 0 | 0 |
| 1 | 3 | 0 | 0 | 18 | 0 | 2 | 0 | 1 |
| 0 | 1 | 0 | 0 | 17 | 0 | 3 | 2 | 2 |
| 0 | 7 | 1 | 0 | 16 | 0 | 3 | 4 | 1 |
| 2 | 3 | 0 | 1 | 15 | 0 | 2 | 1 | 2 |
| 4 | 2 | 1 | 5 | 14 | 1 | 1 | 2 | 4 |
| 2 | 4 | 0 | 0 | 13 | 3 | 3 | 0 | 2 |
| 5 | 3 | 2 | 2 | 12 | 2 | 0 | 0 | 2 |
| 4 | 5 | 5 | 3 | 11 | 6 | 0 | 4 | 4 |
| 5 | 2 | 5 | 3 | 10 | 2 | 0 | 3 | 2 |
| 4 | 1 | 1 | 2 | 9 | 1 | 0 | 0 | 0 |
| 5 | 3 | 1 | 1 | 8 | 1 | 0 | 1 | 0 |
| 4 | 0 | 1 | 0 | 7 | 0 | 0 | 1 | 0 |
| 1 | 1 | 1 | 1 | 6 | 1 | 0 | 1 | 0 |
| 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 4 | 0 | 0 | 1 | 0 |
| 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 |
| 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| n-37 | n-37 | n-18 | n-18 | | n-17 | n-16 | n-20 | n-20 |

SUBJECT MATTER IN ART QUESTIONNAIRE
(n-163)

| | | n | % |
|---|---|---|---|
| 1. | I found the lesson to be: | | |
| | very interesting | 121 | 74.2 |
| | of some interest | 25 | 15.3 |
| | of little interest | 7 | 4.3 |
| | of no interest | 9 | 5.5 |
| 2. | I felt that I learned: | | |
| | a great deal | 103 | 63.2 |
| | some | 42 | 25.8 |
| | very little | 10 | 6.1 |
| | nothing | 8 | 4.9 |
| 3. | I found the booklet to be: | | |
| | very clear | 66 | 40.5 |
| | clear | 56 | 34.4 |
| | confusing | 30 | 18.4 |
| | extremely confusing | 9 | 5.5 |
| 4. | I liked | 128 | 78.5 |
| | I did not like the idea of skipping pages depending on my answer. | 35 | 21.5 |
| 5. | I would like | 150 | 92.0 |
| | I would not like to go through another Art lesson of this type. | 13 | 8.0 |
| 6. | I went only to those pages I was sent to. | 91 | 55.8 |
| | I sometimes went to other pages. | 55 | 33.7 |
| | I always went to other pages to see what was there. | 16 | 9.8 |

**SELECTED STUDENT COMMENTS:**

*"I enjoyed art more than ever."*

*"I don't get it."*

*"I did like it. It was fun."*

*"I would like to do it again and see more beautiful paintings ....I like art and would like to be an artist someday."*

*"I liked it very much and would like to do it again. When I went I was confused but when I read the book it cleared everything up."*

*"...I would like to take another one a little harder."*

*"I thought that it taught me a great deal."*

*"...It was fun....I wouldn't mind doing a test like this every week."*

*"I think this made me learn a great deal. Besides learning it was very interesting to see what I had learned....I wish we could have more of these to do."*

*"I never really thought I would like any kind of art but I changed my mind when I did this."*

*"I think these lessons on art were extremely good. The booklet was a little confusing but other than that I liked it very much. The paintings were very good and someday I hope to see the real ones."*

*"It was horrible."*

*"I think it was wonderful because it was fun."*

*"I liked the booklet because you could see what you knew and what you didn't."*

*"In my opinion there would be nothing better except to do another."*

*"I liked it because it teaches you to follow directions.... and some of the different paintings....and different artists."*

DEVELOPMENT OF RENAISSANCE ART QUESTIONNAIRE
(n-156)

| | | n | % |
|---|---|---|---|
| 1. | I found this sequence to be: | | |
| | extremely interesting | 83 | 53.2 |
| | of some interest | 60 | 38.2 |
| | of little interest | 11 | 7.1 |
| | of no interest | 2 | 1.3 |
| 2. | For learning about art this technique is: | | |
| | extremely effective | 59 | 37.8 |
| | effective | 89 | 57.1 |
| | not too effective | 8 | 5.1 |
| | a complete waste of time | 0 | 0.0 |
| 3. | I found the material to be: | | |
| | extremely clear | 43 | 27.6 |
| | clear | 93 | 59.6 |
| | confusing | 19 | 12.2 |
| | extremely confusing | 0 | 0.0 |
| 4. | I felt the booklet was: | | |
| | too detailed | 18 | 11.5 |
| | about right | 134 | 85.9 |
| | too brief | 3 | 2.0 |
| 5. | I would like | 126 | 80.8 |
| | I would not like to go through another art lesson of this type. | 28 | 17.8 |
| 6. | I went only to the pages where I was sent in the booklet. | 59 | 37.8 |
| | I sometimes went to the other pages in the booklet. | 52 | 33.3 |
| | I went to <u>all</u> the pages in the booklet to see what was there. | 39 | 25.0 |
| 7. | I felt that I learned: | | |
| | a great deal | 73 | 46.8 |
| | some | 76 | 48.0 |
| | very little | 5 | 3.3 |
| | nothing | 2 | 1.3 |

**SELECTED STUDENT COMMENTS:**

*"I seem to be more interested in art than I ever have been. I liked this way of learning very much."*

*"I thought that it was a very good booklet and the paintings were quite beautiful. I most enjoyed the chance to see, close-up, the reproductions of those famous paintings."*

*"...I liked the lesson because it wasn't difficult. You could work at your own rate of speed. I hope we have more of these lessons in the future."*

*"...just fabulous. I really enjoyed myself."*

*"It is an easy way to learn because it is fun and the feeling you get when you get the answer right."*

*"...The print by Leonardo da Vinci was especially interesting because almost all the prints were dark..."*

*"I didn't like the booklet that much. I would rather just do art work or learn these things from our teacher."*

*"I learned more this way than by the lecture method."*

*"I never knew too much about art or paintings but as I went through this booklet, I actually looked at each painting. I learned something and was interested....Now I think I appreciate art more than I did before."*

*"...I felt I learned so much in so short a time."*

*"I thought it was very good but I do not care for so short a thing."*

*"There were too many pages and it got boring as it went on."*

*"This technique of teaching which painting came earlier in the Renaissance and why they did was very interesting. Some of the details...I hadn't noticed before....I would like to make a future study of it (Renaissance)."*

*"This is a very good way to learn about art. It explained terms very clearly and I enjoyed it."*

*"It was fun because you did it on your own and it was different."*

TEACHER QUESTIONNAIRE

A questionnaire was administered to nine of the art and classroom teachers using the various programs. Results were as follows:

Sequences used:

__1__ Materials of the Painter

__8__ Subject Matter in Art

__4__ Printmaking

__4__ Space in Painting

__4__ Abstraction and Representation

__4__ Development of Renaissance Art

1. I feel that this approach to art instruction is:

__6__ Excellent
__3__ Good
_____ Fair
_____ Poor

2. My students found the material to be:

__6__ Very interesting
__2__ Of some interest
_____ Of little interest
_____ Of no interest

3. I found the materials to be:

__4__ very easy to use
__4__ easy to use
__1__ somewhat difficult to use
_____ hard to use

4. I feel the students learned:

__1__ a great deal
__8__ enough to make the experience worthwhile
_____ very little
_____ nothing

5. I felt that the project was:

__5__ extremely useful
__4__ of some use
_____ of little use
_____ a waste of time

6. I __9__ would want to use more of these sequences.
I __0__ would not want to use more to these sequences.

7. As a result of this experience students showed:

__6__ a greater interest in art.
_____ no change in their interest in art.
_____ less interest in art.

8. I found the following problems:

*"Hanging the prints on a level that the children could really observe them properly."*

*"Difficulty in finding ways to display the art."*

*"Displaying the materials was somewhat difficult."*

*"Terrible glare off surface of painting. Finding large enough room."*

*"Place to display. Carrying cases too heavy for me to lift upstairs."*

*"For general class work, ungraded words hard for some students. The other poor readers wished to read (perhaps interest in reading will go up)."*

*"A proper place to display exhibit. Protection of the mats."*

*"The glare on all prints; difficult for lighting."*

*"In some cases, it was difficult to find the name of the artist."*

*"High school students are very much interested in the present time; we need more 19th and 20th century art. The review, or summing up needs strengthening."*

9. The best part about this project was:

*"The first pages immediately caught the interest of the students, which then continued throughout. The prints are beautiful in size and color."*

*"The most interesting thing was the children who suddenly wanted to learn after previously being bored in art class . . . the 600 children (and the teacher) were impressed by the quality of the prints."*

*"the use of comparison to show the seven types of subject matter . . . "*

*"Thank you for a marvelous worthwhile unit. We can enlarge on the effects by having a media project in each subject matter area. We did quick sketches of sections of the classroom for still life subject matter. Also, scenes from windows for landscapes."*

*"The ease with which the students came upon an art experience without realizing it was such. The booklets were a challenge and at one's own speed."*

*"The children seemed to enjoy the experience."*

*"The majority of high school students (non-art majors) approved the idea as an unusual and good way to teach the material they miss in history. I enjoyed it--and liked the "teaching" that it did in such a subtle way."*

*"The division of the types of subject matter."*

*"The possibilities for continuation of a unit."*

*"The useful aids for Humanities class."*

*"Easy to skip around; short reading paragraphs; fits the forty minute periods nicely and moves right along; could have some teachers' helps, such as list of paintings and artists."*

*"I think the best part was the students' enjoyment of the art. Many became interested in certain artists. Dürer was one of their favorites. This also gave them a feeling of success without testing. I enjoyed working with this approach and watching the students' reactions."*

*"The children could progress at their own rate. The subject matter sequence seemed particularly well done. More humor was evident which helped to maintain interest. The other sequence lacked this."*

*"It was a "change-of-pace" from usual methods."*

*"The children can see a variety of good prints in large size."*

*"The program brought the student in close contact with art, for some this was the first time they really saw a work of art."*

## DISCUSSION

**Both programed sequences were effective instructionally with the improvement being significant at the .01 level of confidence in all instances with two groups showing an improvement at the .001 level. Designed for high school use, the Development of Renaissance Art sequence did prove more effective on that level than when used on the eighth grade level, with a mean of 15.1 as compared to 13.4. In both cases, however, the results were statistically significant.**

**The elementary students found the Subject Matter in Art sequence very interesting (74%), appeared to have liked the branching technique (79%), felt the material clear (75%) with 103 (63%) feeling they learned a great deal. 150 (92%) felt they would like to have more material of this type.**

The older students completing the Renaissance sequence felt the material was of interest with slightly over 50% stating it was extremely interesting. 148 (95%) felt it was effective, 136 (88%) clear, and (86%) about right in the amount of detail included in the booklet. 126 (81%) stated that they would like to go through another art lesson of this type. Only seven (4.6%) of the students felt that little or nothing was learned.

It was interesting to note that as children became older, they tended to go to the alternative pages (branches) more often just to see what was there. While less than 10% of the elementary students stated that they always went to the other pages, 39 (25%) of the junior and senior high school students admitted to this practice.

The majority of students like the branching approach and considered it to be enjoyable. Many of the elementary students considered the program to be a test and all ages seemed to approve of the use of comparisons and the high quality of the prints.

The teachers were extremely favorable to this approach to art instruction with all nine rating it good (3) or excellent (6). The teachers felt the sequence was easy to use, that the students found it interesting and that they (the students)

learned enough to make the experience worthwhile. Every teacher requested that more of these sequences be developed. The majority felt that the students' interest in art was increased by this experience.

One major problem that did exist was in the displaying of the paintings. The size of many of the mounted prints combined with the quantity used in a given sequence often presented a major problem of where to place the materials so that they could be seen and yet close enough together to permit the students to complete the sequence without too much difficulty. As a result of this experiment, several schools are purchasing hall display boards specifically for this purpose. No solution was found to the glare problem that did exist under certain lighting conditions.

An interesting problem did evolve as many teachers tended to use a sequence over a wide range of grades and ability levels. As a result, fourth and fifth graders were finding vocabulary problems with programs designed for Junior High School. While this wide use is certainly indicative of both the shortage of materials in this area and the acceptance of the project by the teachers, it is imperative that for long range effectiveness, use be controlled to the grade level specified.

Early in the project a major problem was to evolve a mounting technique that would not only project the prints but permit easy display while minimizing the problems of transportation of the prints from school to school. The responsibility for finding a solution fell to Michael Luffred, Media Specialist for the BOCES Center, who coordinated the scheduling and transportation of the exhibits.

At first it was decided to explore the use of antique frames that would be more in keeping with the quality and character of the prints. Weight, storage problems, and the danger of damage to the frames soon showed the impracticality of this approach.

In the final process, prints were drymounted (rubber cement proved impractical) on 1/8" mounting board. The large size of some prints created a minor problem in locating a source for board of the required size. To keep the prints clean they were covered with a relatively low glare acetate and then matted. Provision was made for the prints to be hung if display areas were available. The original prints used in the printmaking sequence were framed in glass and handled in a different manner to protect the art work.

With the reproductions lying flat, transportation became a minor problem. While the mats did tend to become dirty, they

are replaceable and the reproductions themselves remained in good condition. The acetate did, in some schools, create a glare problem, and as noted earlier, displaying such a large number of reproductions was at times a challenge. The way in which reproductions were displayed did not appear to affect the effectiveness of the sequence. Halls, libraries, classrooms, auditoriums and art rooms were all used for the project. Groups of ten to twelve students starting in fifteen minute intervals proved effective in most instances with over 250 students completing a sequence in a single day.

While the amount of time required for a student to complete a unit varied from fifteen to forty-five minutes, the average was approximately twenty-five minutes for both sequences. A brief introduction to the program format by the teacher immediately prior to use did prove effective in eliminating most problems on the elementary level. Generally the older students needed little or no assistance. Several teachers felt that the date, title, and artist's name should not have been covered. The advantages and disadvantages of providing this additional information has not been determined particularly in those sequences such as the Renaissance where dates became critical and would therefore give the student additional clues.

The time required to outline a program, locate and select specific prints and write and edit programed booklets is excess of forty to sixty hours per unit. As the program writer becomes more experienced the time required for writing is markedly reduced as is the amount of revision and editing. Experience also reduced the time needed for organization and outlining.

## CONCLUSIONS

1. Programed art sequences of the type used in this project are instructionally effective from the upper elementary grades through high school.
2. Recognition skills and art history can be taught successfully by this approach.
3. The programed approach makes efficient use of available resources, both human and material, providing maximum student contact with minimum investment of time and money.
4. Sequences of this type are overwhelmingly approved by both teachers and students.
5. The branching approach, while creating some problems with the poor readers, appears to be ideal for units of this type.
6. Programed art sequences are easy to utilize and can be used effectively and efficiently with large numbers of

students working independently under minimal supervision.

7. Programed art sequences can be used effectively by teachers without formal art training.
8. Student interest in art appears to be encouraged by this technique.
9. The method of display does not appear to affect the learning that takes place, however, the use of formal display boards designed for the purpose is encouraged.
10. The time required to develop a sequence taking approximately 30 minutes for a student to complete, is well in excess of 40 man-hours.

The success of this project reinforces the need for major exploration in new approaches to art instruction. It is recommended that additional units be developed for use in both the public schools and the colleges and that these sequences be made easily available to art specialists and classroom teachers. The potential use of materials of this type within schools serving the disadvantaged is unlimited.

Research should be conducted to define which objectives of the art curriculum can effectively and efficiently be reached in this manner and at what levels. It is urged that other projects explore alternative presentation techniques for

use with programed booklets and comparisons between various approaches be made.

# Appendix A

## CRITERIA TESTS

SUBJECT MATTER IN ART

_____Pre-Test

Grade_____

_____Post-Test

The following paintings are: (A) Landscape
(B) Still-Life
(C) Portrait
(D) Genre

1_____ 4_____ 7_____ 10_____

2_____ 5_____ 8_____ 11_____

3_____ 6_____ 9_____ 12_____

13. This painting is an example of: _____ a. genre painting

_____ b. portraiture

_____ c. a landscape

d. none of these

_____ 14. Which painting (A) or (B), is a group portrait?

_____ 15. The subject matter of a painting is:

a. the material used to make the painting

b. the title of the painting

c. the name of the artist

d. what the painting is about

_____ 16. A painting which an artist does of himself is called:

a. Landscape
b. still-life
c. portrait
d. genre
e. self-portrait

_____ 17. If you took out your paints and did a painting of the trees and yard you see out of your window your painting would be called:

a. landscape
b. portrait
c. genre scene
d. still-life

_____ 18. A painting of several specific people is called a:

a. group portrait
b. self-portrait
c. genre painting
d. (an) oil painting

_____ 19. A painting showing ordinary people doing ordinary things is called:

a. portraiture
b. genre
c. a group portrait
d. modern art

_____ 20. If you did a painting of a garage mechanic repairing a car, your painting would be a:

a. landscape
b. portrait
c. genre scene
d. still-life

DEVELOPMENT OF RENAISSANCE ART

_____Pre-Test

Grade_____

_____Post-Test

1. Which painting, (A) or (B), uses subject matter not apt to be found in the very early Renaissance?

_____

2. Which painting, (A) or (B), uses chiaroscuro in a way typical of the later Renaissance?

_____

3. Which painting, (A) or (B), makes use of a more fully developed perspective?

_____

4. Which painting, (A) or (B), is an example of secular subject matter?

_____

Which of the following paintings, (A) or (B), appears to have been painted later?

5. _____ 6. _____ 7. _____ 8. _____ 9. _____

From the following list describe the <u>shape</u> of the painting:

a. a grisaille
b. a Gothic arch shape
c. a tondo
d. a rectangle or square
e. a combination of tondo and rectangle

10. _____ 11. _____ 12. _____

From the following list describe the <u>form</u> in which painting is done:
a. a diptych
b. a triptych
c. neither of the above

13. _____ 14. _____ 15. _____

16. A term in art which means "contrast of dark and light" is:

_____ a. grisaille
_____ b. chiaroscuro
_____ c. perspective
_____ d. Renaissance

17. _____ Which of the following would <u>not</u> help to create a feeling of depth through perspective?

a. decreasing the size of the figures
b. dulling colors
c. including a donor
d. lines converging at a vanishing point

18. _____ Which of the following is <u>not</u> a development found in the art of Renaissance?

a. concern for 3 dimensional form
b. use of gold backgrounds
c. interest in anatomy
d. use of more natural facial expressions

19. _____ Which of the following would be the most likely subject of a very early Renaissance painting?

a. a self-portrait
b. a battle scene
c. a secular scene
d. a religious scene

20. _____ Which of the following shapes used for painting during the Renaissance is called a diptych?

# Appendix B

SELECTED PAGES FROM THE

SUBJECT MATTER IN ART

BOOKLET

When an artist takes up a blank sheet of paper and decides to make a painting, he may paint anything he wants: a dog, a building, a field, letters, a flag, a design of colors, or even himself. But he has to make a choice. He must choose what an artist calls his "subject matter".



"Subject Matter" (or sometimes we simply say the subject of the art work) is what the painting is of or about. In painting A for example, done by the American artist, Gilbert Stuart, the subject is George Washington, our first President.

Look at painting B by the Dutch painter, Vermeer.

Is the subject matter:

A. an oil painting - go to page 8
B. A woman pouring milk - go to page 9.



From page 7....

You said the subject matter of Vermeer's work is an oil painting? Remember, subject matter means what the painting is about. Oil paint is what Vermeer used to make the work, but the painting itself is of a woman pouring milk from a pitcher.

Go back to page 7 and try again.



From page 7....

You said the subject matter of Vermeer's work is a woman pouring milk. You are exactly right.because the woman at work is what Vermeer painted and is, therefore, the subject matter of the painting.

Onward to page 10.

Now look at painting K by the Spanish artist Velazquez. Instead of being about one certain person, this painting is of several; the Prince and Princess, the King and Queen, several servants and even the artist himself. When a work of art shows several specific people, as this one does it can still be a portrait but it becomes a special type: "Group Portrait".



Another special type of portrait occurs when the artist chooses to paint himself. In this case, we call the work a "self-portrait" because the artist is doing a portrait of himself.



Look again at painting C. Here the artist was Vincent van Gogh and his subject was Vincent van Gogh. This then, is a good example of a self-portrait.

Now let's see if you understand. Go on to the next page for a question.



Work L is a painting by Albrecht Dürer.

The painting is of Dürer *when he was dressed* in the fashion of his day. Would you say then that this is a:

group portrait? - go to page 23

self-portrait? - go to page 24

portrait? - go to page 25